

CLAIMS

1. An apparatus for positioning an item in or near a natural orifice of a non-human animal, including: at least one resilient rod having a first portion adapted to the shape of part of the animal's body spaced from the orifice and a second portion adapted to extend to or beyond the part of the animal's body in the region of the orifice; an anchoring arrangement to anchor the rod(s) to said part of the animal's body spaced from the orifice; and a transverse cross member supported by the second portion(s) of the rod(s), which cross member is adapted in use to be biased in a direction generally orthogonal to the second portion(s) of the rod(s) into contact with the animal's body in the region of the natural orifice as a result of the resilience of the rod(s).
2. An apparatus as claimed in claim 1, wherein the rod(s) has/have sufficient stiffness that it/they fit the shape of said part of the animal's body spaced from the orifice, but will then maintain that shape in the absence of manual shaping.
3. An apparatus as claimed in preceding claim 1 or 2, wherein the cross member includes or is attached to a sensor to sense a body condition or occurrence.
4. An apparatus as claimed in claim 3, wherein the apparatus is adapted such that the second portion(s) of the rod(s) overhang(s) a posterior region of the animal's body.
5. An apparatus as claimed in claim 4 wherein the sensor is configured to determine whether the animal is urinating.
6. An apparatus as claimed in any one of the preceding claims, wherein the cross member includes an arrangement to dispense a substance.
7. An apparatus as claimed in claim 6 wherein the arrangement to dispense comprises a receptacle in the cross member or a tube which is in fluid connection with a separate reservoir.
8. An apparatus as claimed in claim 6 or 7, wherein the cross member includes or is attached to a sensor to sense a body condition or occurrence, and the arrangement to

dispense a substance is configured to dispense the substance in response to sensing of the body condition or occurrence.

9. An apparatus as claimed in claim 8, wherein the arrangement to dispense is adapted to dispense one or more substances directly into a urine stream.

10. An apparatus as claimed in claim 8 or 9, wherein the apparatus is configured to operate a pump or open a valve to dispense the substance(s) in response to sensing of the body condition or occurrence.

11. An apparatus as claimed in any one of claims 6 to 10, wherein the cross member includes a region which forms a venturi mixer and is configured such that the flow of the animal's urine through the venturi mixer draws the substance out of a tube or aperture which is in fluid communication with a reservoir, and mixes it with the urine.

12. An apparatus as claimed in any one of the preceding claims, including or attached to a sensor which is configured to measure one or more urine properties.

13. An apparatus as claimed in claim 12, which is configured to introduce one or more substances into or onto the animal's body or urine in response to the measurement.

14. An apparatus as claimed in claim 13, wherein an electrical and/or data connection is provided between the sensor and a data device to transmit data from the sensor.

15. An apparatus as claimed in claim 14, wherein the data device is provided in a saddle-type arrangement which sits on the back or rump of the animal, and the data device is configured to send signals in response to the received measurements to introduce the substance(s) into or onto the animal's body or into the urine stream.

16. An apparatus as claimed in any one of the preceding claims, wherein the cross member includes an arrangement to collect a substance from the animal.

17. An apparatus as claimed in claim 16, wherein the arrangement comprises a receptacle in or carried by the cross member.

18. An apparatus as claimed in any one of claims 1 to 17, wherein the cross member is rigidly mounted to the rod(s), so as to not move relative to the rod(s).
19. An apparatus as claimed in any one of claims 1 to 17, wherein the cross member is mounted to the rod(s) with sufficient friction that it can be manually moved to a desired position on the rod(s), but will maintain that position in the absence of further manual adjustment.
20. An apparatus as claimed in any one of claims 1 to 17, wherein the cross member is an integral part of at least one rod.
21. An apparatus as claimed in any one of claims 1 to 17, wherein the cross member includes a connecting portion which is connectable to an item for insertion into the animal's natural orifice.
22. An apparatus as claimed in claim 21, wherein the item is removable from connection with the cross member and interchangeable with another item.
23. An apparatus as claimed in any one of claims 1 to 17, wherein the cross member forms an integral part of a device for part penetration into a natural orifice of the animal, which device includes the cross member and an insertion portion which is unitary with the cross member.
24. An apparatus as claimed in claim 23, wherein the cross member extends in two mutually opposite directions transverse to said insertion portion, to form a substantially T-shaped device.
25. An apparatus as claimed in claim 23, wherein the cross member extends substantially in a single direction transverse to said insertion portion, to form a substantially 'L'-shaped device.
26. An apparatus as claimed in any one of claims 21 to 25, wherein the cross member is mounted to the rod(s) to enable the cross member and thereby an item connected thereto or the insertion portion to move relative to the rod(s) when the animal moves.

27. An apparatus as claimed in claim 26, wherein the cross member is attached to the rod(s) by means of respective clip portion(s).
28. An apparatus as claimed in claim 26 or 27, wherein the cross member is removable from the rod(s).
29. An apparatus as claimed in any one of claims 26 to 28, wherein the or each rod includes a stopper at a lower end thereof to prevent the cross member from sliding off the lower end(s) of the rod(s).
30. An apparatus as claimed in any one of claims 21 to 29, wherein the item or the insertion portion includes one or more apertures for delivery of one or more substance(s) into a cavity associated with the orifice of the animal.
31. An apparatus as claimed in claim 30, wherein the item or the insertion portion, and the cross member are configured for receipt of fluid delivery tubing.
32. An apparatus as claimed in claim 30 or 31, wherein a plurality of apertures are provided in the item or the insertion portion to dispense fluid at different locations.
33. An apparatus as claimed in any one of claims 21 to 32, wherein the item or the insertion portion is configured to extract a substance from the orifice of the animal.
34. An apparatus as claimed in claim 33, including or provided in combination with a pump which can be operated in a delivery or extraction mode by reversing the pump.
35. An apparatus as claimed in any one of claims 21 to 34, wherein the item or the insertion portion is configured to sense an internal body condition or occurrence.
36. An apparatus as claimed in any one of claims 21 to 35, wherein the rod(s) is/are sufficiently resilient to bias the item or the insertion portion at least partly into the animal's orifice.

37. An apparatus as claimed in any one of claims 21 to 36, wherein the width of the cross member is greater than the size of the animal's orifice, so that the cross member restrains over-penetration of the item or the insertion portion into the animal's orifice.

38. An apparatus as claimed in any one of the preceding claims, wherein the anchoring arrangement comprises a harness arrangement which engages part of the animal's body.

39. An apparatus as claimed in any one of claims 1 to 37, wherein the second portion(s) of the rod(s) is/are configured to overhang a posterior or anterior region of the animal so that the cross member is located at or near a posterior or anterior orifice of the animal, and the rod(s) is/are connectable to or is/are provided as part of a saddle-type arrangement which sits on the animal's back or rump with the rod(s) extending generally rearwardly or forwardly therefrom.

40. An apparatus as claimed in any one of claims 1 to 39, having two said rods, with the cross member extending between the rods.

41. An apparatus as claimed in any one of claims 1 to 40, wherein the rod(s) is/are adapted to the shape of the animal's rump and to overhang the posterior region of the animal's body.

42. An apparatus as claimed in claim 41 and having two rods, wherein the rods are spaced from one another by the anchoring arrangement with sufficient spacing that the animal's tail can extend therebetween.

43. An apparatus for positioning an item near a posterior natural orifice of a non-human animal, including: two resilient rods each having a first portion adapted to the shape of the animal's rump and each having a second portion adapted to overhang the posterior region of the animal's body; an anchoring arrangement to anchor the rods to the back or rump of the animal's body with the rods extending generally rearwardly; and a cross member extending between the second portions of the rods in the overhanging region, the cross member including or attached to a sensor for sensing when an animal is urinating or to measure a urine property, the resiliency of the rods being such that in use the cross

member and thereby the sensor is positioned adjacent the animal's body in the region of a posterior orifice.

44. An apparatus as claimed in claim 43, wherein the cross member includes an arrangement to dispense a substance.

45. An apparatus as claimed in claim 44, wherein the arrangement to dispense is arranged to dispense one or more substances directly into a urine stream.

46. An apparatus as claimed in claim 45, wherein the sensor is configured for sensing whether an animal is urinating, and the apparatus is configured to operate a pump or open a valve to dispense the substance(s) in response to sensing of urination.

47. An apparatus as claimed in any one of claims 43 to 46, wherein the cross member includes a region which forms a venturi mixer and is configured such that the flow of the animal's urine passing through the venturi mixer draws the substance out of a tube or aperture which is in fluid communication with a reservoir, and mixes it with the urine.

48. An apparatus for positioning an item in a natural orifice of a non-human animal, including: two resilient rods each having a first portion adapted to the shape of part of the animal's body spaced from the orifice and each having a second portion adapted to extend to or beyond the part of the animal's body in the region of the orifice; an anchoring arrangement to anchor the rods to said part of the animal's body spaced from the orifice; and a cross member connected to and extending between the second portions of the rods, the cross member being arranged for connection to an item to be inserted into the orifice of the animal, and enabling movement of the cross member relative to the rods in response to movement of the animal.

49. An apparatus as claimed in claim 48, wherein the item is removable from connection with the cross member and interchangeable with another item.

50. An apparatus for positioning an insertion portion of a member in a natural orifice of a non-human animal, including: two resilient rods each having a first portion adapted to the shape of part of the animal's body spaced from the orifice and each having a second

portion adapted to extend to or beyond the part of the animal's body in the region of the orifice; an anchoring arrangement to anchor the rods to said part of the animal's body spaced from the orifice; and a substantially T-shaped member, which includes a transverse cross member connected to and extending between the second portions of the rods and an insertion portion for insertion into the orifice of the animal, the cross member being moveable relative to the rods in response to movement of the animal.

51. An apparatus for positioning an item in a natural orifice of a non-human animal, including: two resilient rods each having a first portion adapted to the shape of part of the animal's body spaced from the orifice and each having a second portion adapted to extend to or beyond the part of the animal's body in the region of the orifice; an anchoring arrangement to anchor the rods to said part of the animal's body spaced from the orifice; and a cross member connected to and extending between the second portions of the rods, the cross member being arranged for connection to an item to be inserted into the orifice of the animal, wherein the cross member is moveable along the second portions of the rods in response to movement of the animal.

52. An apparatus as claimed in claim 51, wherein the item is removable from connection with the cross member and interchangeable with another item.

53. An apparatus for positioning an insertion portion of a member in a natural orifice of a non-human animal, including: two resilient rods each having a first portion adapted to the shape of part of the animal's body spaced from the orifice and each having a second portion adapted to extend to or beyond the part of the animal's body in the region of the orifice; an anchoring arrangement to anchor the rods to said part of the animal's body spaced from the orifice; and a substantially T-shaped member, which includes a transverse cross member connected to and extending between the second portions of the rods and an insertion portion for insertion into the orifice of the animal, wherein the cross member is moveable along the second portions of the rods in response to movement of the animal.